

On the *Aderidae* of the Canary Islands

(Coleoptera)

BY

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In his extensive work on the African *Aderidae*, particularly those of Spanish Guinea, Báguena (1948) proposed a general system of the whole family. Evidently animated by the American school founded by Casey (1895) he divided the genus *Aderus* (*Xylophilus*, *Hylophilus*) of the older authors into quite a number of genera, many of which were newly described.

As a principle this step was no doubt well-advised. Recent examinations of the ♂ genitalia among other things (Israelson, 1970) have revealed differences indicating that the rank of some of Pic's subgenera should properly be elevated into genera.

The difficulties met with in creating the new system were, however, enormous. Essential portions of the basic material were not accessible at the time. Some of the genera, not to speak of the bulk of the species, seem to have been known by Báguena only by the old descriptions often very unsatisfactory indeed. This was bound to cause inconsistencies.

Some rearrangements and additions were made in a later work (Báguena, 1962). Báguena's system was not appreciated by Pic (see Báguena, 1962, p. 6) and it was left unconsidered by some recent authors e. g. Buck (1954) and Kaszab (1969) who retained *Aderus* in its wide sense.

Nomura (1964) on the other hand seems to have adopted it. In fact a lot of reexaminative work will be necessary before a really constructive criticism can be delivered.

The Canary *Aderidae* listed by Báguena (1948) are: *Euglenes oculatissimus* (Woll.) and *Cobosasia pallescens* (Woll.). These species were known from the islands by Wollaston (1864) already.

Later records seem to be very few. Uyttenboogaart (1936) examined an example of "*Aderus (Anthicus)* sp." from Grand Canary and believed this to belong to a species new to science. The description is insufficient and I have not had the opportunity of examining the specimen.

Palm (1967) captured one specimen of *Euglenes oculatissimus* in Teneriffe.

My own studies of the coleopterous fauna of the Canary pine led to the discovery in La Palma of two more members of the family. The number of Canary *Aderidae* known at present therefore amounts to 4 which are all dealt with below.

V a n o n u s Casey, 1895.

This genus was described on some North-American forms and was stated to differ from the like-wise North-American *Tanilotes* (Casey, 1895) by the shape of antennae and posterior femora. Later (1905) Casey arrived at the conclusion that the characters mentioned were only sexual and therefore withdrew *Tanilotes* and included its species in *Vanonus*.

Báguena (1948) regarded *Vanonus* and *Tanilotes* as well as the subgenus *Pseudeuglenes* Pic as synonymous with *Pseudanidorus* (Pic). In this wide sense, however, the later genus happens to include rather heterogenous elements.

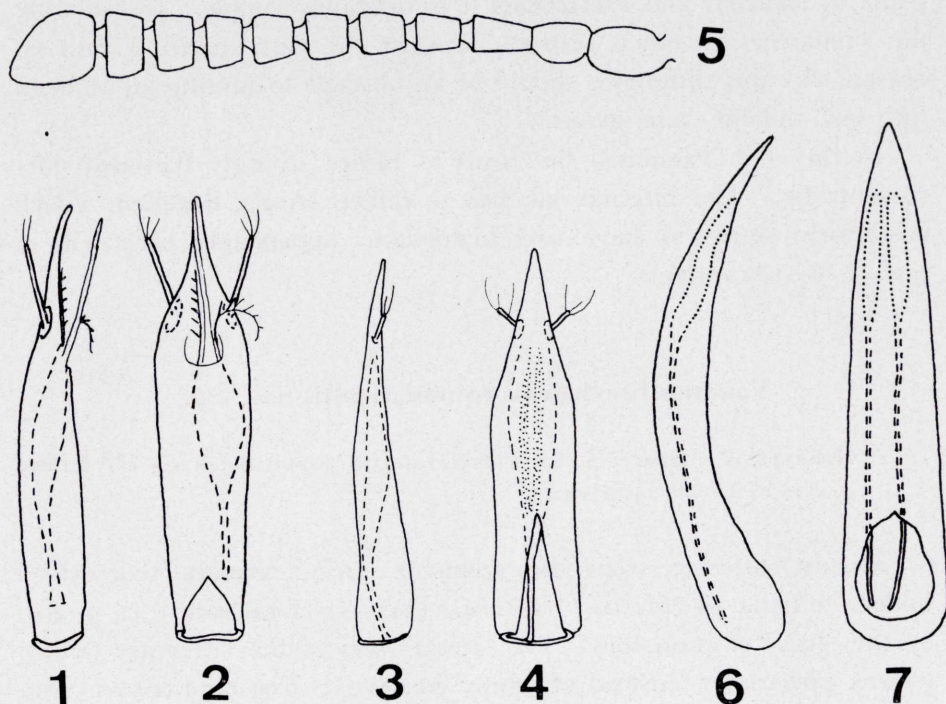
I had the opportunity, by the kind intervening of Dr. C. Lindroth, to study some of Casey's types of *Vanonus* and *Tanilotes* kept in the collections of the Smithsonian Institute, Washington D. C. The aedeagi of *V. huronicus* Casey and *V. wickhami* Casey are reproduced here (figs. 1-4) to show their remarkable similarity with that of the European *Aderus brevicornis* (Perris) as drawn by me (Israelson, l. c., Figs. 11 and 12). Regarding external features as well the latter species corresponds with the two American species, such as for the shape of head and antennae, the very large basal abdominal segment, and the secondary sexual characters of both sexes. Certainly the proper place of *brevicornis* is in *Vanonus*.

The latter species, however, is amply distinguished from *Pseudeuglenes* (Israelson, l. c.) and also from *Pseudanidorus* and not doubt

the differences between the two latter as well as between these and *Vanonus* are generic rather than specific.

In respect of vestiture the American *Vanonus* species mentioned differ from the ♀ type of *Tanilotes lacustris* Casey and from *V. brevicornis*.

All *Aderidae* examined by me have a hair inserted at the anterior border of the ordinary elytral punctures. In some species there is no other pubescence and the latter therefore is truly simple.



Figs. 1-7.—*Vanonus huronicus* Casey (type 36505, Michigan); 1-2) aedeagus in lateral and ventral view. *V. zwickhami* Casey (Michigan); 3-4) aedeagus. *Cobosia pallescens* (Woll.) (Madeira); 5) ♂ antenna; 6-7) aedeagus.

In other species the areas between the punctures are rather densely covered with usually very fine and depressed hairs emanating from interstitial micropunctures. These micropunctural hairs cause the pruinose tinge observed by several authors. They are more easily torn off than the punctural ones. The difference between the two types of hairs may be inconspicuous and, this being so, the pubescence is pseudo-simple.

In some species, however, it is very evident, the punctural hairs

being more elongate, more thick, more or less subdepressed (instead of depressed), or of a somewhat deviating coloration. The pubescence then appears to be double. A particular type of double pubescence is found in *Eugenes* (see below).

I have been somewhat detailed in this matter because the elytral pubescence, if double or simple, was by Báguena attached a decisive importance even in separating tribes in the *Aderidae*.

In *V. huronicus* and *wickhami* the pubescence is clearly double while in *lacustris* and *brevicornis* it is definitely simple. Considering the similarities in other respects between the four species I find no reason why this difference should be an obstacle to uniting all of them into one and the same genus.

In the ♂♂ examined the penis is rather strongly flattened dorso-ventrally. The internal sac has a rather strong flagellum which posteriorly seems to have two filamentous appendages each with a row of short branchlets.

***Vanonus brevicornis rotundaticollis* nov. ssp.**

Holotype, ♀, Canary Is., La Palma, Garafía, Roque del Faro, 17.VI.1966, Nr. 1024 (coll. Israelson).

Mainly differing from the nominate form, recently redescribed under the name of *Aderus brevicornis* (Perris) (Israelson, l. c., p. 26), by the shape of pronotum. The lateral sides of the latter are faintly convex posteriorly (instead of faintly concave). The hind corners therefore are more indistinct and more obtuse-angled than in *b. brevicornis*. Moreover the basal impressions are very shallow and rather indistinctly limited.

The status of the present form is somewhat uncertain. The specific identity with the European form can hardly be doubted on the material available but the shape of pronotum seems to be so constant in the latter that the separating of the Canary form as a subspecies is accounted for.

The sole example was collected under the loose bark of a dead but still upright pine. Accompanying species was *Eremotes crassicornis* (Brullé).

V. brevicornis brevicornis has a wide distribution in Western Euro-

pe (Israelson, 1970). After I had the opportunity of examining the Czechoslovakian specimen mentioned in the paper just cited (p. 26), I can now confirm Pic's (1910, p. 6) record from Bohemia. The locality is "Adamov" according to Dr. M. Fassati (in litt.).

Euglenes Westw., 1829.

To the usually listed characters of this apparently well-defined genus (see Westwood, l. c., p. 59; Pic, 1903, p. 23, and Báguena, 1948, p. 64) the following ones may be added.

The nearly filiform antennae gradually become slightly broader outward in the ♀ but in the male the broadest segments are in the middle.

The distal segment of maxillary palpa is about twice as broad as long and that of labial palpa is truncate in the shape of a subcircular disc with a blunt tooth anteriorly.

The elytral vestiture is by Báguena stated to be simple but in fact it is double. It is true that the microsculpture is indistinct and that the dense pruinose pubescence is absent. But between the punctures there are shorter and thinner hairs not infrequently pointing obliquely outward, forming an angle of about 45° with the punctural hairs. The interstitial pubescence is not notably denser than the punctural.

The 1st abdominal segment is somewhat shorter than the others taken together and its transversal suture is rather distinct.

The legs were stated to be devoid of sexual characters. However, in the ♂♂ the anterior tibiae are provided on their inner side with a distal spine being about perpendicular to the tibia. This spine is absent in the ♀♀.

The aedeagus is slender and moderately flattened dorso-ventrally. The parameres are articulating and inserted in the proximal half of the aedeagus. They are thin and slightly club-shaped. The internal sac has two very long and thin sclerites. Photographs of the aedeagus of two North-European species were reproduced by Strand (1963, figs. 3 and 4).

***Euglenes oculatissimus* (Woll., 1864).**

Xylophilus oculatissimus Wollaston, 1864, p. 525; 1865, p. 440.

Hylophilus (Euglenes) oculatissimus Pic, 1903, p. 98.

Euglenes oculatissimus Báguena, 1948, p. 141.

Lectotype, ♂ : (Canary Is., La Palma, VI.1858, Wollaston leg.) (in the British Museum). Across its base the rectangle has the green ink-line indicating La Palma. Labels: "*Xylophilus oculatissimus* Woll. type Woll.", "syntype", "♂", and "type" in red ring.

Paralectotype, ♀ : Same data (except for the labels).

Other material examined. Teneriffe: La Esperanza, Las Raices, 30.VI.1964, ♂, G. Israelson leg. (my collection); Agua Mansa, c. 1000 m., 1.IX.1966, ♂, T. Palm leg. (coll. Palm).

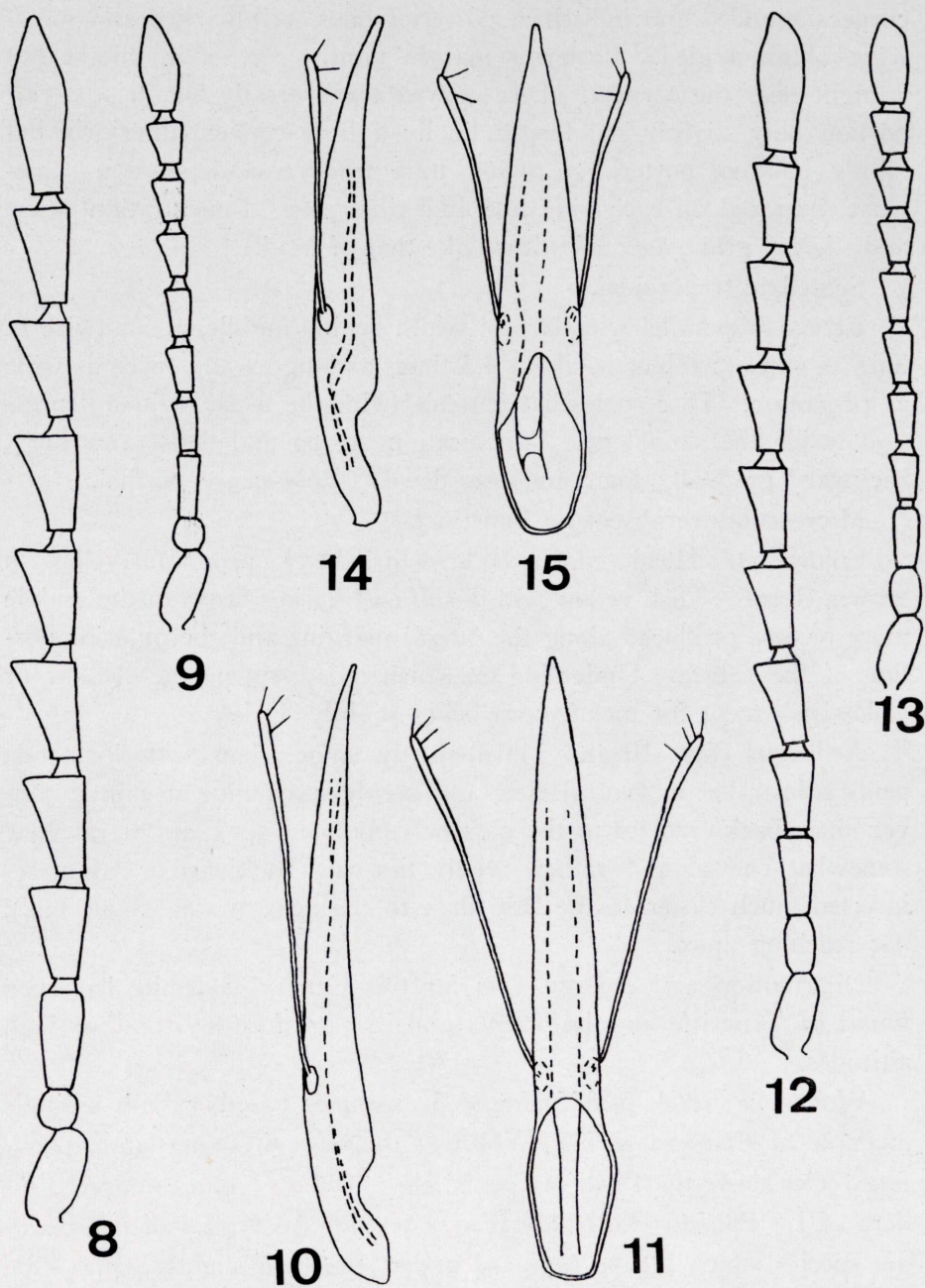
La Palma: Garafía, Roque del Faro, c. 1300 m., 20.VI.1965, ♀, G. Israelson leg.; Garafía, Topo Lejo, c. 1400 m., 12.VI.1966, ♂ and ♀, G. Israelson leg. (all in my collection).

Description. Length of body 2.4-3.1 (♂ ♂) or 2.8-3.2 (♀ ♀) and width 0.85-1.05 or 1.05-1.15 mm., respectively.

Head about as long as wide in frontal view and 1.7-1.9 times as wide as long in occipital view, 1.1-1.2 times as wide as pronotum. Upper side faintly arched transversally and more strongly so longitudinally. Front nearly flat. Pubescence moderately long and dense; hairs erect but more or less strongly curved; transversal parting indistinct. Eyes large, the interocular distance being 1/10 (♂ ♂) or 1/4 (♀ ♀) of the width of head; with 3 ocellae in 0.2 mm. and a conspicuous pubescence. Temples about 1/10 (♂ ♂) or 1/5 (♀ ♀) of the length of eye in occipital view. Posterior margin slightly concave in middle but a little convex in outer portions (occipital view).

Antennae (figs. 8 and 9) partly inserted on eye's emargination (interantennal distance about 5 times as long as the interocular in the male and twice in the female), about 3.5-4.5 (♂ ♂) or 1.75-2 (♀ ♀) times as wide as head (8/10 or half the length of body, respectively), rather strongly serrate in the ♂ weakly so in the ♀, 2nd segment subglobose, half as long as 3rd, ultimate segment slender and rather evenly though somewhat obliquely narrowing in outer portion. Pubescence denser and longer in the ♂, than in the ♀.

Pronotum 1 1/4 as wide as long, with subparallel sides. Anterior



Figs. 8-15.—*Euglenes oculatissimus* (Woll.) (lectotype and ♀ paralectotype); 8) ♂ antenna; 9) ♀ antenna; 10-11) aedeagus. *E. wollastoni* nov. sp. (holotype and ♀ paratype); 12) ♂ antenna; 13) ♀ antenna; 14-15) aedeagus.

corners rounded and indistinct, posterior ones well-marked and somewhat obtuse-angled. Posterior margin faintly convex in middle but straight near the corners. Disc convex transversally but in posterior portion only slightly so; longitudinally a little convex anteriorly but faintly concave posteriorly owing to a transverse depression somewhat deepened on each side into indistinct pits. Puncturation dense and slightly granulate. Vestiture like that of head.

Scutellum trapezoidal.

Elytra subparallel with largest width behind middle, about twice as long as wide (combined), about 4.3 times as long as and twice as wide as pronotum. Disc somewhat flattened with the usual oblique depression inside the shoulders. Puncturation strong and dense anteriorly, backward gradually finer and less dense. Pubescence normal.

Microsculpture absent or indistinct.

Coloration. Head reddish to brownish black, pronotum yellowish brown, elytra reddish yellow with a suffused darker fascia in the middle more or less produced along the lateral margins and the anterior portion of the suture. Underside brownish red. Appendages yellow or yellowish except for metafemora being slightly darker.

Aedeagus (figs. 10 and 11) distinctly longer than posterior tarsi; penis subparallel in ventral view and evenly narrowing in faintly convex lines backward up to the narrowly rounded apex, in lateral view somewhat curved and rather evenly tapering backward. Parameres inserted much closer to the base than to the apex (index about 1:2), not reaching apex.

Distribution and ecology. So far this Canary endemite has been found in Teneriffe and La Palma and in pine forests at rather high altitudes.

Wollaston (1864, p. 525) found 3 examples together with a single example of *Eudonia senilis* (Woll.) at the base of some damp, trickling rocks above the Pinal of Banda, close to the edge of the great Caldera of La Palma. This habitat may perhaps be typical of the *Eudonia* species which I have captured under stones on slightly damp sand in a dried-up barranco bottom but for the *Euglenes* species the occurrence was certainly incidental. My own finds of the latter were made under the loose bark of pine trunks or by beating branches of living pines.

***Eugenes wollastoni* nov. sp.**

Holotype, ♂ : Canary Isl., La Palma, Garafía, Roque del Faro, 20.VI.1965 (Nr. 543, coll. Israelson).

Paratypes: same data as for holotype, ♂ ; same locality but 22.VI.1965, 15 ♂ ♂ , 2 ♀ ♀ ; Garafía, Casa Forestal, 22.VI.1965, ♂ . All specimens were collected by me and are in my collection except for 1 paratype in the Madrid Museum.

Description. Similar to *oculatissimus* but differing in the following respects.

Body averagely a little smaller, length 2.2-2.8 (♂ ♂) or 2.8 (♀ ♀) and width 0.8-0.95 mm.

Eyes also somewhat smaller; interantennal distance 2-2.9 times as long as the interocular in the ♂ and 1.5-6 times in the ♀ .

Antennae (figs. 12 and 13) more slender in the ♂ . Second segment subcylindrical in both sexes, distinctly somewhat longer than wide, more than half as long as 3rd. Terminal segment more bluntly narrowed in outer 3rd.

Coloration. Head brownish black, pronotum reddish brown, elytra almost uniformly brownish yellow, nearly imperceptively darker along the lateral and posterior margins. Under side brownish red. Appendages darker, brownish yellow.

Aedeagus (figs. 14 and 15) relatively shorter, about as long as posterior tarsi; narrowing from the parameral insertion up to the short subapical portion. Parameres inserted more closely to the middle of penis (index 1.4:2).

Habitually reminding of *E. kabylianus* (Pic) the types of which—in the Paris Museum—I had the opportunity to examine but that species has broader though still less strongly serrate antennae and its aedeagus is different: narrowing rather abruptly somewhat behind middle and then more gently so up to the short apical portion, viewed dorsoventrally, and more straight in profile.

Because of the comparatively dark antennae in *wollastoni* the determinative key of Pic (1903, p. 93) might lead to *E. serricornis* (Reiter) but as I have found from a ♂ , likewise in the Pic collection of the Paris Museum the antennae are still darker (dark brown) in the latter species and relatively more elongate. The aedeagus is similar to that of *wollastoni* but the apex is more acute.

Distribution and ecology. As far as known *wollastoni* is an endemite of La Palma where it lives in the same region as *oculatissimus*. Like the last-named species it seems to be connected with the Canary pine.

All my examples were captured at dawn on barkless portions of dead pine trunks. The insects were restlessly running about, now and then disappearing into exit holes of wood-boring insects. Remarkable was the high proportion of ♂♂.

Cobososia Báguena, 1962.

In this genus Báguena united some species previously classified in *Olotelus* Muls. Rey or *Mixaderus* Báguena which all had their pronotum distinctly trapezoidal with the lateral sides straight and diverging forward for the posterior 3/4 or 4/5, and with the anterior corners more or less sharply marked. Evidently this genus, to some extent at least, corresponds with the "Division A" of the subgenus *Olotelus* which is characterized by the distinctly transverse pronotum (Pic, 1903, p. 85).

Cobososia pallescens (Woll., 1854).

Xylophilus pallescens Wollaston, 1854, p. 538, pl. 13, fig. 3; 1864, p. 526; 1865, p. 440.

Hylophilus (Olotelus) pallescens Pic, 1903, p. 87.

Olotelus pallescens Báguena, 1948, p. 349.

Cobososia pallescens Báguena, 1962, p. 19.

Of this species I have seen 4 examples in the British Museum, 2 of which are from Madeira (colls. Crotch and Sharp) and 2 from the Canary Islands (colls. Sharp and Wollaston) and, in addition, 1 Canary specimen in the Madrid Museum.

Description. Length of body about 1.75 mm. and width about 0.8 mm.

Head distinctly wider than long, also in frontal view, and a trifle narrower than pronotum. Upper side rather strongly convex, indis-

tinctly puncturate, and with a vestiture of very short depressed hairs. Transversal parting running shortly behind antennal insertions. Eyes small, interocular distance about $\frac{2}{3}$ of the width of head; excision obsolete. Temples short, about $\frac{1}{5}$ of the length of eye.

Antennae (fig. 5) inserted far from eye's margin; interantennal distance about 0.6 of that of the interocular distance; about 1.5 times as long as head's width. Second segment a little longer than wide, 3rd only a trifle longer than 2nd and 4th, 5th-10th about as long as 4th but successively somewhat wider. Outer segments transverse, except for 11th being distinctly longer than wide and obliquely and obtusely pointed.

Terminal segment of maxillary palpa not much wider than long.

Pronotum 1.3-1.4 times as wide as long, greatest width across the anterior corners; all sides somewhat convex except for slight excisions near the obtuse-angled corners which therefore appear a little protruding. Puncturation fine, somewhat granulate, and rather dense. Disc rather evenly convex and in the posterior portion with two depressions on each side, the outer small and distinct, the inner larger but very indistinct. Vestiture reminding of that of head.

Scutellum trapezoidal.

Elytra subellipsoidal, 1.6-1.7 times as long as wide, 3.5-3.8 times as long and 1.6-1.7 times as wide as pronotum. Puncturation rather strong and dense anteriorly. Pubescence double, pruinose, depressed; punctural hairs somewhat longer than the interpunctural.

First protarsal segment dilated in the ♂ and about as wide as the distal portion of tibia.

Finely microsculptured.

Coloration uniformly reddish yellow.

Aedeagus (figs. 6 and 7) gently narrowing backward for most of its length, subapically more markedly so up to the moderately acute apex, in profile rather evenly curved downward; internal sac containing two elongate sclerites. Parameres absent.

Distribution and ecology. *C. pallescens* was described from Madeira and was later also found in other Macaronesian archipelagos as well as in the Mediterranean region.

The finds in the Canary Islands are few and restricted to Teneriffe (S. Cruz and Souzal) and Gomera (Wollaston, 1865, p. 441). In S. Cruz de Teneriffe the species was also captured in February, 1921 (Cabrera leg.) to be seen from the specimen in the Madrid Museum.

Contrary to the species previously dealt with which all have shown connections with the Canary pine this seems to live at lower altitudes, according to Wollaston (l. c.) "beneath vegetable refuse in gardens and other cultivated grounds".

KEY TO THE CANARY "ADERIDAE".

1. Eyes small; the distance between the antennal insertions much shorter than that between the eyes in the front. Antennae short, not as much as twice as long as the width of head (across the eyes); subterminal segments transverse 2.
- Eyes large; the distance between the antennal insertions much longer than that between the eyes in the front. Antennae elongate, more than twice as long as the width of head; subterminal segments longer than wide 3.
2. Pronotum with its greatest width near the middle and its anterior corners rounded and obsolete. Elytral pubescence not very dense, simple. Coloration of body dark, head blackish
 **Vanonus brevicornis rotundicollis** nov. ssp.
 La Palma.
- Pronotum with its greatest width across the well-marked and slightly protruding anterior corners. Elytral pubescence dense, double. Coloration uniformly reddish yellow
 **Cobosia pallescens** (Woll.).
 Teneriffe, Gomera.
3. Antennae (figs. 8 and 9) with 2nd segment subglobular, at most half as long as 3rd. Elytra reddish yellow with a transverse darker fascia prolonged along the lateral sides and anteriorly along the suture. Aedeagus as in figs. 10 and 11
 **Eugenes oculatissimus** (Woll.).
 Teneriffe, La Palma.
- Antennae (figs. 12 and 13) with 2nd segment subcylindrical and distinctly more than half as long as 3rd. Elytra seemingly uniformly brownish yellow. Aedeagus as in figs. 14 and 15
 **Eugenes wollastoni** nov. sp.
 La Palma.

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ABSTRACT.

The 4 Canary species of *Aderidae*, known at present, are described, including *Vanonus brevicollis rotundaticollis* nov. ssp. and *Euglenes wollastoni* nov. sp. Lectotype designations are made for *Euglenes oculatissimus* (Woll.). Drawings are given of the aedeagus of two North-American species of *Vanonus*.

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